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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,934	10/14/2003	Karl Hofbauer	00655P1224US	6387
32116	7590	08/05/2005	EXAMINER	
WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661			WALBERG, TERESA J	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/684,934

Applicant(s)

HOFBAUER, KARL

Examiner

Teresa J. Walberg

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/15/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (JP 57-73392) in view of Simpelaar (2,657,018).

Ito et al disclose a serpentine, multiple pass heat exchanger (Fig. 5) including at least one flattened multiple port tube (8A,B,C) in a serpentine configuration (Fig. 5) with a plurality of generally parallel runs (Fig. 6) defining at least three hydraulically separate flow paths (Fig. 6), fins (10) extending between and in thermal conducting relation with adjacent ones of said runs for each flow path (8A,B,C), an inlet manifold (13) on one end of said tubes (8A,B,C) and in fluid communication with the ports therein, and an outlet manifold (14) on an opposite end of said tubes(8A,B,C) and in fluid communication with the ports therein, the cross sectional area of one of said flow paths (17A) being greater than the cross sectional area of another of said flow paths (17B, see Fig. 10) with said one flow path being adjacent a back side of said heat exchanger through which a coolant may exit (at 16) and said another flow path being adjacent a front side of said heat exchanger through which a coolant may enter (at 15); a baffle in said outlet manifold separating said another flow path and one of the

other of said flow paths from the remaining flow path(s). Ito additionally teaches that the manifolds can be provided on opposite ends of the device (Fig. 1).

Ito et al do not disclose the inlet manifold having a partition extending both longitudinally and transversely within said inlet manifold to hydraulically separate said one flow path from said inlet port while connecting said another flow path to at least one other flow path other than said one flow path.

Simpelaar (see Figs. 3 and 5) disclose a serpentine multiple pass heat exchanger having a flattened tube and an inlet and outlet manifold including partitions (see Fig. 5) extending longitudinally and transversely to separate the flow paths.

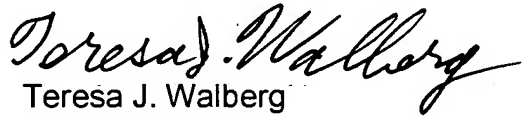
It would have been obvious in view of Simpelaar to use partitions extending longitudinally and transversely within the headers of Ito et al to separate the flow paths, the motivation being to more easily provide a longer flow path and thus increase the heat transfer.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hughes, Tanabe, Yamamoto et al, Hughes, Smithey et al, Takahashi et al, Miura et al, and Haussmann are cited to show multipath heat exchanger structures.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Teresa J. Walberg  
Primary Examiner  
Art Unit 3753

tjw